Follow the Money: Quantifying Race-Based Inequities in Neurosurgical Spending

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Introduction

Racial inequities in neurosurgery have not been well characterized.

Our Aims:

1) to determine the presence and quantify the extent of such disparities in a representative neurosurgical population;
2) to investigate whether such disparities are related to payer type;
3) situate our findings in the context of other surgical disciplines.
Methods

We accessed the National Inpatient Sample (NIS) database (all ages) from 1998 to 2012, representing a weighted sample of 11.7 million neurosurgical cases.

We analyzed total charges and costs by converting all dollar amounts into 2012 equivalents.

Data were stratified by race and payer type.

Comparative analyses were conducted for non-neurosurgical fields (hip and knee replacements, hernia repairs, and CABG surgeries.)
There is an ever widening gap between total (i.e. all-payer) neurosurgical spending for white and non-white communities in the United States.
Results

Per capita healthcare spending (defined as \([\text{total hospital charges for racial group}] / [\text{group population}]\)) for neurosurgical procedures has been consistently higher for white versus non-white populations.

In 2012, overall per capita spending was $216 and $160 for white and black populations, respectively.

The two largest payers for neurosurgery are private insurers and Medicare.

As payer type may be associated with race, it is worthwhile to explore the possibility that the apparent racial inequity in spending may be due to differences in payer-type alone.
In 2012, among the privately insured, per capita spending was $91 for the white population and $50 for the black population.

In 2012, per capita spending among Medicare recipients was $88 for the white population and $54 for the black population.
Results

We saw similar patterns of spending inequity in orthopedic and cardiothoracic procedures.
Discussion

Significant disparities in neurosurgical spending exist between different racial communities in the United States, which are not adequately explained by payer type alone. Furthermore, the disparity in neurosurgical spending between white and non-white communities is widening. Persistence of spending inequities in other surgical specialties suggests that subtle but pervasive systemic socioeconomic disparities may cause comparable race-based inequities across medical specialties. Further investigation is warranted to understand the role of potential racial biases and socioeconomic barriers to care.
Significant racial disparities exist in per capita neurosurgical spending between different racial communities in the US.

Spending disparities are not adequately explained by differences in payer-type between racial groups.

Comparable race-based disparities in spending are also seen in other surgical specialties.